



SEQUENCE LISTING

#5
RECEIVED

NOV 16 2000

TECH CENTER 1600/2800

<110> Cho, Myeong He
Lemaux, Peggy G.
Buchanan, Bob B.
Wong, Joshua
Marx, Corina

<120> Value-Added Traits in Grain and Seed
Transformed with Thioredoxin

<130> 2001-0703.30

<140> US 09/538,864

<141> 2000-03-29

<150> US 60/126,736

<151> 1999-03-29

<150> US 60/127,198

<151> 1999-03-31

<150> US 60/169,162

<151> 1999-12-06

<150> US 60/177,740

<151> 2000-01-21

<150> US 60/177,739

<151> 2000-01-21

<160> 25

<170> FastSEQ for Windows Version 4.0

<210> 1

<211> 486

<212> DNA

<213> Artificial Sequence

<220>

<223> barley B1-hordein promoter and signal sequence

<400> 1

aagctttaac	aaccacaca	ttgattgcaa	cttagtccta	cacaagtttt	ccattcttgt	60
ttcaggctaa	caacctatac	aagggtccaa	aatcatgcaa	aagtgatgct	aggttgataa	120
tgtgtgacat	gtaaagtga	taagggtgagt	catgcatacc	aaacctcggg	atttctatac	180
tttgtgtatg	atcatatgca	caactaaaag	gcaactttga	ttatcaattg	aaaagtaccg	240
cttgtagctt	gtgcaaccta	acacaatgtc	caaaaatcca	tttgcaaaaag	catccaaaca	300
caattgttaa	agctgttcaa	acaaacaaag	aagagatgaa	gcctggctac	tataaatagg	360
caggtagtat	agagatctac	acaagcacaa	gcatcaaaac	caagaaacac	tagttaacac	420
caatccacta	tgaagacctt	cctcatcttt	gcactcctcg	ccattgcggc	aacaagtacg	480
attgca						486

<210> 2

<211> 19
<212> PRT
<213> Artificial Sequence

<220>
<223> barley B1-hordein signal protein

<400> 2
Met Lys Thr Phe Leu Ile Phe Ala Leu Leu Ala Ile Ala Ala Thr Ser
1 5 10 15
Thr Ile Ala

<210> 3
<211> 497
<212> DNA
<213> Artificial Sequence

<220>
<223> Barley D-hordein promoter and signal sequence

<400> 3
cttcgagtgc cgcgcgattt gccagcaatg gctaacagac acatattctg ccaaaacccc 60
agaacaataa tcacttctcg tagatgaaga gaacagacca agatacaaac gtccacgctt 120
cagcaaacag taccocagaa ctaggattaa gccgattacg cggcttttagc agaccgtcca 180
aaaaaactgt ttgcaaagc tccaattcct ccttgcttat ccaatttctt ttgtgttggc 240
aaactgcact tgtccaaccg attttggtct tcccggtgtt cttcttaggc taactaacac 300
agccgtgcac atagccatgg tccggaatct tcacctcgtc cctataaaag cccagccaat 360
ctccacaatc tcatcatcac cgagaacacc gagaaccaca aaactagaga tcaattcatt 420
gacagtccac cgagatggct aagcggctgg tcctctttgt ggcggtaatc gtcgccctcg 480
tggctctcac caccgct 497

<210> 4
<211> 20
<212> PRT
<213> Artificial Sequence

<220>
<223> barley D-hordein signal protein

<400> 4
Ala Lys Arg Leu Val Leu Phe Val Ala Val Ile Val Ala Leu Val Ala
1 5 10 15
Leu Thr Thr Ala
20

<210> 5
<211> 28
<212> DNA
<213> Artificial Sequence

<220>
<223> primer

<400> 5
atatctagaa tggcggcgtc ggcggcga

28

<210> 6
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> primer

<400> 6
atagagctct tactgggccg cgtgtag

27

<210> 7
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> primer

<400> 7
gtaaagcttt aacaaccac acattg

26

<210> 8
<211> 34
<212> DNA
<213> Artificial Sequence

<220>
<223> primer

<400> 8
ccgacgccgc tgcaatcgta cttgttgccg caat

34

<210> 9
<211> 33
<212> DNA
<213> Artificial Sequence

<220>
<223> primer

<400> 9
agaaagcttg gtacccttcg agtgcccgcc gat

33

<210> 10
<211> 48
<212> DNA
<213> Artificial Sequence

<220>
<223> primer

<400> 10
gaacagctcc tcgcccttgc tcacagcggt ggtgagagcc acgagggc

48

<210> 11
<211> 19

<212> DNA
<213> Artificial Sequence

<220>
<223> primer

<400> 11
ccaagaagtt cccagctgc

19

<210> 12
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> primer

<400> 12
aactctagac tcggtggact gtcaatg

27

<210> 13
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> primer

<400> 13
catcgagaca agcacgggtca acttc

25

<210> 14
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> primer

<400> 14
atatccgagc gcctcgtgca tgcg

24

<210> 15
<211> 24
<212> DNA
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<220>
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<400> 15
caagatggat tgcacgcagg ttct

24

<210> 16
<211> 23
<212> DNA
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<220>

<223> primer

<400> 16

atagaaggcg atgcgctgcg aat

23

<210> 17

<211> 29

<212> DNA

<213> Artificial Sequence

<220>

<223> primer

<400> 17

cggaattcga tctagtaaca tagatgaca

29

<210> 18

<211> 26

<212> DNA

<213> Artificial Sequence

<220>

<223> primer

<400> 18

ggtctagaat ggaaactcac aaaacc

26

<210> 19

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> primer

<400> 19

atagctgcga caaccctgtc ctt

23

<210> 20

<211> 26

<212> DNA

<213> Artificial Sequence

<220>

<223> primer

<400> 20

gggagctctc aatcactctt accctc

26

<210> 21

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> primer

<400> 21

aagcctgaac tcaccgcgac g

21

<210> 22

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> primer

<400> 22

aagaccaatg cggagcatat ac

22

<210> 23

<211> 36

<212> DNA

<213> Artificial Sequence

<220>

<223> primer

<400> 23

ggcgcacgcg aattcgaatt cgatatcgat cttcga

36

<210> 24

<211> 369

<212> DNA

<213> barley

<220>

<221> misc_feature

<222> (0)...(0)

<223> thioredoxin h

<400> 24

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ttcactgcat	catgggtcgg	accatgccgc	atcatggctc	cagttttcgc	tgatctcgcc	180
aagaagttcc	caaatgctgt	tttcttcaag	gtcgacgtgg	atgaactgaa	gcccattgct	240
gagcaattca	gtgtcgaggc	catgccaacg	ttcctgttca	tgaaggaagg	agacgtcaag	300
gacagggttg	tcggagctat	caaggaggaa	ctgaccgcca	aggttgggct	tcacgcggcg	360
gcccagtaa						369

<210> 25

<211> 122

<212> PRT

<213> barley

<220>

<221> VARIANT

<222> (0)...(0)

<223> thioredoxin h

<400> 25

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Val	His	Ser	Leu	Glu	Gln	Trp	Thr	Met	Gln	Ile	Glu	Glu	Ala	Asn	Thr
			20					25					30		
Ala	Lys	Lys	Leu	Val	Val	Ile	Asp	Phe	Thr	Ala	Ser	Trp	Cys	Gly	Pro
		35					40					45			
Cys	Arg	Ile	Met	Ala	Pro	Val	Phe	Ala	Asp	Leu	Ala	Lys	Lys	Phe	Pro
	50					55				60					
Asn	Ala	Val	Phe	Leu	Lys	Val	Asp	Val	Asp	Glu	Leu	Lys	Pro	Ile	Ala
65					70					75					80
Glu	Gln	Phe	Ser	Val	Glu	Ala	Met	Pro	Thr	Phe	Leu	Phe	Met	Lys	Glu
				85					90					95	
Gly	Asp	Val	Lys	Asp	Arg	Val	Val	Gly	Ala	Ile	Lys	Glu	Glu	Leu	Thr
			100					105					110		
Ala	Lys	Val	Gly	Leu	His	Ala	Ala	Ala	Gln						
		115					120								